Notice of Allowability	Application No.	Applicant(s)	
	10/582,113	FUCHS ET AL.	
	Examiner	Art Unit	
	ANA M. FORTUNA	1777	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *1/4/11*.

2. ☒ The allowed claim(s) is/are *14-30*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *1/4/2011* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other *Figure drawings filed on 8/8/06 are reviewed by the Examiner.*.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jonathan Miller on 1/4/2011.

The application has been amended as follows:

14. (Currently Amended) A membrane filter system, comprising:

at least one filter unit;

the at least one filter unit comprising:

[[at least one]] a vessel;

a plurality of individually removable aerated filter modules arranged in the [[at least one]] vessel and structured and arranged for a suspension to be filtered to flow through [[in parallel at least one filter module]] the plurality of filter modules;

at least one filter module comprising a plurality of membrane units;

a plurality of spaces formed in the [[at least one]] vessel by plates arranged cross-wise with respect to a direction of flow through the at least one filter module[[s]];

wherein one of the spaces is a [[at least one]] feed space for a common supply of the suspension to be filtered to the plurality of filter modules;

[[at least one]] one of the spaces is a permeate space for common discharging of permeate;

[[a feed pump for supplying the suspension to be filtered into the at least one feed space; and]]

[[at least one]] a feed distribution space laterally and at least partially around the [[at least one]] feed space, and

a feed pump for supplying the suspension to be filtered into the feed distribution space,

wherein the [[at least one]] feed space comprises:

a feed distribution opening; and

an aeration device around which the suspension to be filtered flows, and

wherein the feed distribution opening is arranged so suspension to be filtered is guided into the [[at least one]] feed space from the [[at least one]] feed distribution space cross-wise with respect to the direction of flow through the filter module, and

wherein the feed distribution opening is continuous in the circumferential direction of the feed space in the lower region of the feed space.

15. (Currently Amended) The system of claim 14, the at least one filter unit further comprising ~~at least one~~ a retentate space for the common discharging of retentate.

16. (Currently Amended) The system of claim 15, wherein the ~~at least one~~ permeate space surrounds the filter modules and is sealed off from the suspension to be filtered and the retentate, and wherein the permeate emerges into the permeate space from the filter modules.

17. (Currently Amended) The system of claim 14, wherein each filter module further comprises an inlet-side end face, and the ~~at least one~~ feed space encloses at least the inlet-side end faces of all the filter modules and is connected to the individual filter modules for feeding in the suspension.

18. (Currently Amended) The system of claim 15, wherein each filter module further comprises an outlet-side end face, and the ~~at least one~~ retentate space encloses at least the outlet-side end faces of all the filter modules and is connected to the individual filter modules for removing retentate.

19. (Previously Presented) The system of claim 14, wherein the feed distribution space further comprises a tap-off device to at least one of empty the filtration device and remove contaminants.

20. (Previously Presented) The system of claim 14, wherein the feed space further comprises an air pulse line for introducing an air pulse into the feed space.

21. (Currently Amended) A method for operating the membrane filter system as claimed in claim 14, comprising:

supplying the suspension to be filtered from the feed space into the plurality of filter modules; and

providing a gasification from the aeration device,

wherein a pressure difference between an inlet and an outlet of each ~~membrane~~ filter module is caused by a friction loss of a flow, and wherein ~~a~~ the gasification achieves a reduction in a weight of a fluid column of the suspension in the filter module, which compensates for the pressure difference.

22. (Previously Presented) A method for cleaning the membrane filter system as claimed in claim 14, comprising back-flushing permeate, counter to a production direction, through a membrane surface of the filter modules at periodic intervals in order to clean the membrane filter system.

23. (Previously Presented) The method as claimed in claim 22, further comprising introducing a cyclical blast of air through an air pulse line into the feed space and into the filter modules in order to clean the membrane filter system.

24. (Previously Presented) The method as claimed in claim 22, further comprising:

removing the suspension from the feed space;

back-flushing permeate through the filter modules;

at least one of aerating via the aeration device and mixing with one or more chemical cleaning solutions; and

pumping out contaminated flushing water.

25. (Previously Presented) The system of claim 14, wherein at least one filter module comprises a plurality of identical membrane units.

26. (Currently Amended) A method of filtering a suspension, comprising:

supplying a suspension from ~~at least one~~ a feed distribution space positioned laterally at least partially around ~~at least one~~ a feed space to the ~~at least one~~ feed space through a feed distribution opening, wherein the feed distribution opening is continuous in the circumferential direction of the feed space in the lower region of the feed space;

aerating the suspension in the ~~at least one~~ feed space;

uniformly feeding the suspension through to a plurality of individually removable aerated filter modules arranged in ~~at least one~~ a vessel in a direction cross-wise to a direction in which the suspension is supplied to the ~~at least one~~ feed space, whereby a permeate flows into ~~at least one~~ a permeate space adjacent the plurality of individually removable aerated filter modules; and

discharging the permeate from the ~~at least one~~ permeate space.

27. (Currently Amended) The method of claim 26, further comprising:

discharging retentate into ~~at least one~~ a retentate space.

28. (Previously Presented) The method of claim 26, wherein at least one filter module comprises a plurality of membrane units.

29. (Currently Amended) The system of claim 14, wherein the ~~at least one~~ feed distribution space is arranged to directly feed the suspension to be filtered from the ~~at least one~~ feed distribution space to the ~~at least one~~ feed space.

30. (Currently Amended) The method of claim 26, wherein the supplying the suspension from the ~~at least one~~ feed distribution space to the ~~at least one~~ feed space comprises directly feeding the suspension from the ~~at least one~~ feed distribution space to the ~~at least one~~ feed space.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: Claim 14-30 as currently amended are allowed over the prior art of record. The prior art of record fails to provide the feed distribution space (sub-chamber 12) positioned laterally around the filter module surrounding the feed space of the filter device and in communication with the feed distribution opening which is continuous in the circumpherencial direction of the feed space in the lower region of the feed space; the invention is an improvement to conventional tubular membrane filters in which a feed space a permeate space and a retentate spaces are provided in the filter module and aeration is provided in the feed space, to reduce turbulence an produce uniform fluid distribution. The invention as whole containing the structure of claim 14, and the operation of the apparatus to achieve the uniform fluid distribution and reduce pressure difference, as in claims 21 and 26 is not suggested in the prior art of record. Reference WO 02/26363 teaches the filter module with plates and compartments for the feed solution, permeate and

retentate, and aerator in the feed space, and fails to teach the combination with the subchamber or feed distribution space and the opening around the feed space in communication with the feed distribution space.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANA M. FORTUNA whose telephone number is (571)272-1141. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANA M FORTUNA/
Primary Examiner, Art Unit 1777